SONY

2-696-705-**13**(1)

LCD Digital Color TV

Operating Instructions

⚠ Before operating the TV, please read the “Safety information” section of this manual.
Retain this manual for future reference.

KDL-52X2000
KDL-46X2000
KDL-40X2000

BRAVIA

© 2006 Sony Corporation

Introduction

Thank you for choosing this Sony product.
Before operating the TV, please read this manual thoroughly and retain it for future reference.

Notice for Digital TV function

- Any functions related to Digital TV (with DVB logo) will only work in areas where DVB-T (MPEG2) digital terrestrial signals are broadcasted. Please confirm with your local dealer if you can receive a DVB-T signal where you live.
- Although this TV set follows DVB-T specifications, compatibility with future DVB-T digital terrestrial broadcasts cannot be guaranteed.
- Some Digital TV functions may not be available in some areas.

Trademark information

- DVB is a registered trademark of the DVB Project
- Manufactured under license from BBE Sound, Inc. Licensed by BBE Sound, Inc. under one or more of the following US patents: 5510752, 5736897. BBE and BBE symbol are registered trademarks of BBE Sound, Inc.
- “Dolby”, “Pro Logic”, and the double-D symbol are trademarks of Dolby Laboratories.
- Manufactured under license from Dolby Laboratories.
- TruSurround technology is used as a virtualizer for Virtual Dolby Surround.
- TruSurround, SRS and (●) symbol are trademarks of SRS Labs, Inc.
  TruSurround technology is incorporated under license from SRS Labs, Inc.
- HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

- The illustrations used in this manual are of the KDL-46X2000 unless otherwise stated.

Table of Contents

Start-up Guide 4

Safety information 8
Precautions 11
Overview of the remote 12
Overview of the TV buttons and indicators 14

Watching TV

Watching TV 15
Using the Favorite List DVB 18
Viewing pictures from connected equipment 19

Using MENU Functions

Navigating through menus 20
Picture menu 21
Sound menu 24
Screen menu 26
Setup menu 28
AV Setup menu 30
Analog Setup menu 31
Digital Setup menu DVB 33
PC Settings menu 35

Using Optional Equipment

Connecting optional equipment 37
Programming the remote 40

Additional Information

Specifications 41
Troubleshooting 43
Index 45

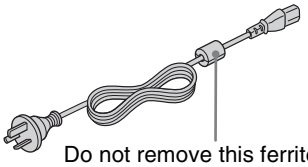
DVB : for digital channels only

1: Checking the accessories

Remote RM-GD001 (1)

Size AA batteries (R6 type) (2)

AC power cord (1)

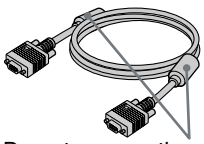


Do not remove this ferrite core.

Antenna cable (1)

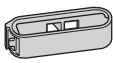
Do not remove these ferrite cores.

PC cable (1)

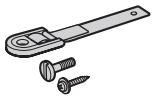


Do not remove these ferrite cores.

Cable holder (1)

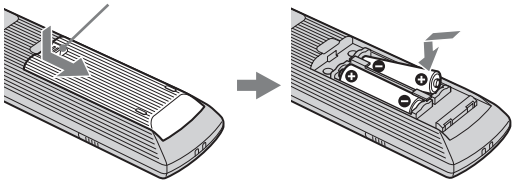


Support belt (1) and screws (2)



To insert batteries into the remote

Push and slide to open.



Notes

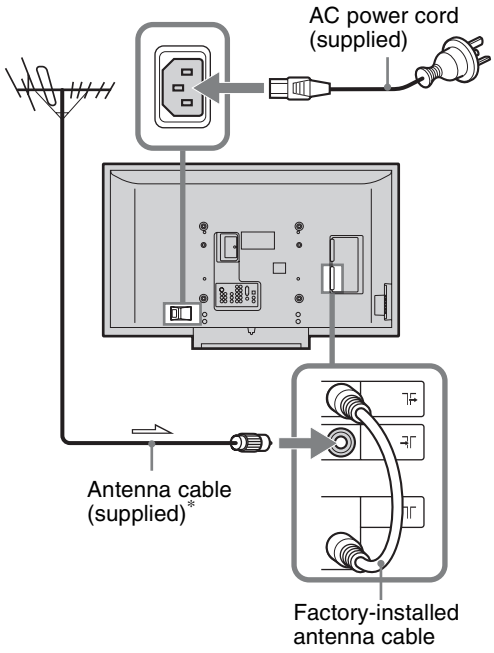
- Observe the correct polarity when inserting batteries.
- Do not use different types of batteries together or mix old and new batteries.
- Dispose of batteries in an environmentally friendly way. Certain regions may regulate disposal of the battery. Please consult your local authority.
- Handle the remote control with care. Do not drop or step on it, or spill liquid of any kind onto it.
- Do not place the remote control in a location near a heat source, or in a place subject to direct sunlight, or in a damp room.

To replace the bezel unit

The bezel unit can be replaced with others that are sold separately. However, do not remove the unit except to replace it. For details, see the instructions supplied with bezel units.

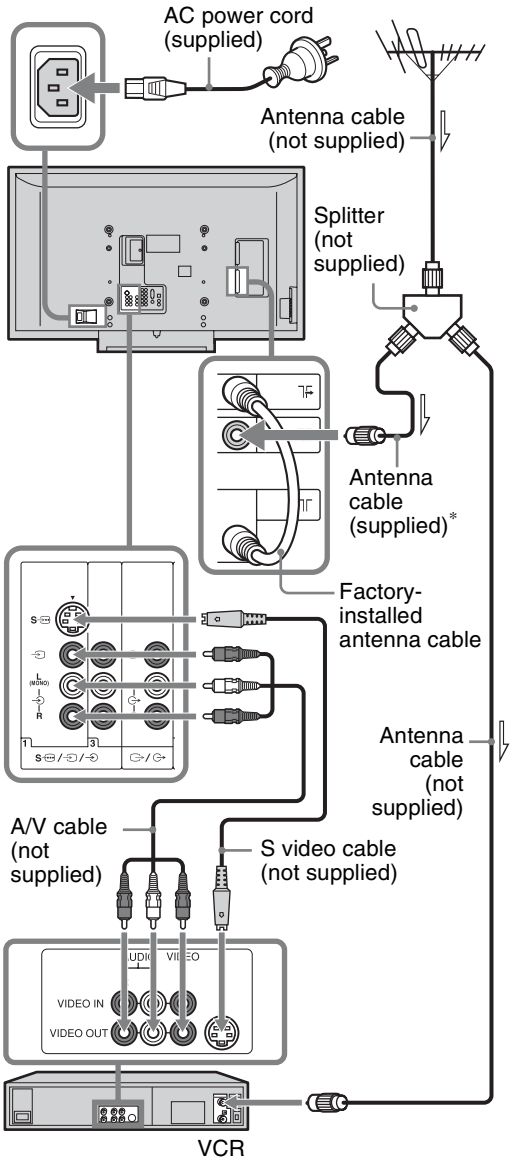
2: Connecting an antenna/VCR

Connecting an antenna only



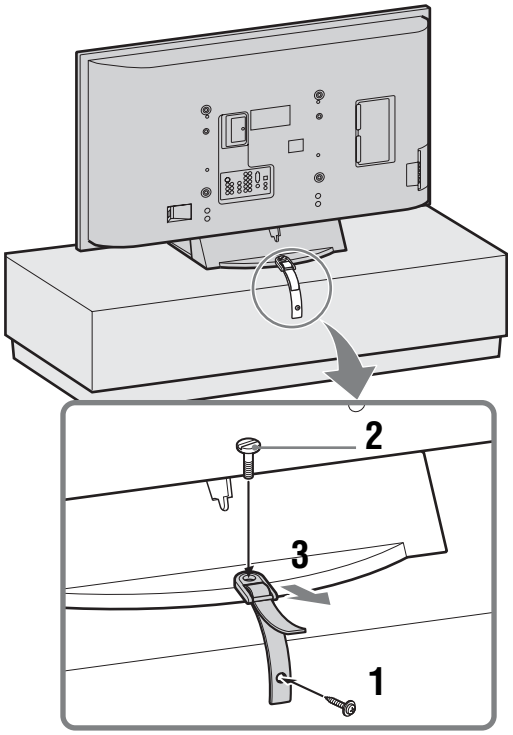
Connecting an antenna and VCR

We recommend that you use a splitter to connect the antenna to the TV and to the VCR etc. This should ensure that signal loss is reduced as much as possible.

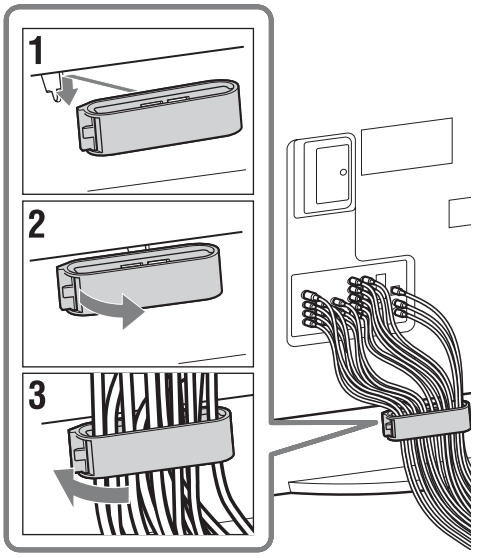


* When connecting an antenna cable, an adaptor (not supplied) may be required.

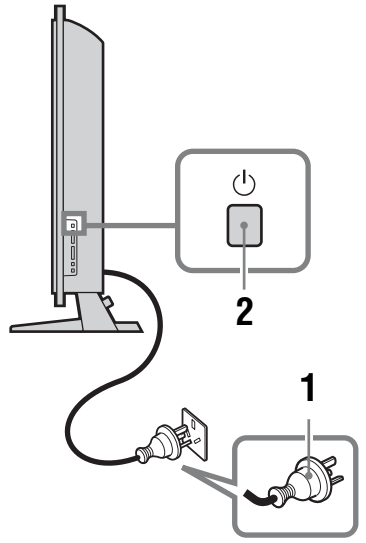
3: Preventing the TV from toppling over

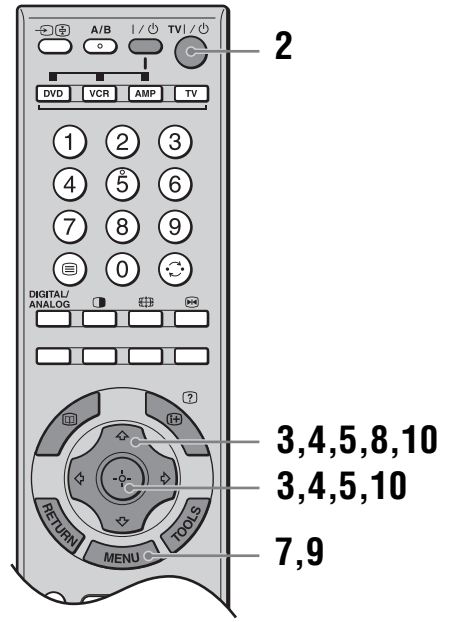


4: Bundling the cables



5: Auto-tuning the TV



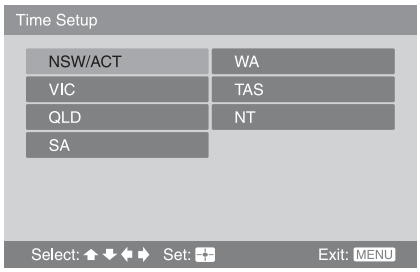


1 Connect the TV to your AC power outlet (220-240 V AC, 50/60 Hz).

2 Press ⏻ on the TV (right side).

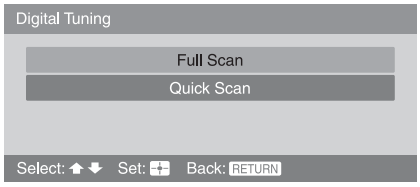
When you switch on the TV for the first time, the Time Setup menu appears on the screen.
When the TV is in standby mode (the ⏻ (standby) indicator on the TV (front) is red), press TV **I**/⏻ on the remote to switch on the TV.

3 Press ⇧/⇩/⇦/⇨ to select the state/region in which you will operate the TV, then press ⊕.



This option allows you to set the time zone in which you will operate the TV. This will ensure that the time displayed on the i-Plate (page 17) is correct.

4 Press ⇧/⇩ to select “Full Scan” or “Quick Scan” to preset channels, then press ⊕.



“Full Scan”: All available channels are tuned and stored. This procedure may take some time.
“Quick Scan”: All expected channels in your area are tuned and stored. You will need to select your nearest city to help speed up this procedure.

5 Press ⇦/⇨ to select “OK”, then press ⊕.

A display appears showing a tuning progress bar and the channels tuned and stored.
The TV starts searching for all available digital channels, followed by all available analog channels. This may take some time, please be patient and do not press any buttons on the TV or remote.

If a message appears for you to confirm the antenna connection

No digital or analog channels were found. Check the antenna connection and press ⇦/⇨ to select “Yes”, then press ⊕ to start auto-tuning again.

6 When the Program Sorting menu appears on the screen, follow the steps of “Program Sorting” (page 31).

If you do not change the order in which the analog channels are stored on the TV, go to step 7.

7 Press MENU to display the Clock Set menu.

When digital channels have been stored, set “Time Adjustment” to “Auto”, then go to step 9.
If no digital channels have been stored, set “Time Adjustment” to “Manual”, then go to next step.

8 Press ⇧/⇩/⇦/⇨ to set the day and time (hour and minute), then press ⊕.

9 Press MENU to exit.

The TV has now tuned in all the available channels.

10 Press ⇦/⇨ to select the desired setting in “Display this menu next time ?” dialog, then press ⊕ to exit.

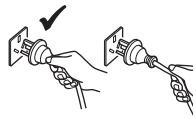
Tip

If “Yes” is selected and the TV is switched off by pressing ⏻ on the TV, or is disconnected from the AC power outlet, the auto startup procedure restarts the next time the TV is switched on.

Safety information

AC power cord

- Observe the followings to prevent the AC power cord being damaged. If the AC power cord is damaged, it may result in a fire or an electric shock.
  - Unplug the AC power cord when moving the TV set.
  - When you disconnect the AC power cord, disconnect it from the AC power outlet first.
  - Be sure to grasp the plug when disconnecting the AC power cord. Do not pull on the AC power cord itself.
  - Do not pinch, bend, or twist the AC power cord excessively. The core conductors may be exposed or broken.
  - Do not modify the AC power cord.
  - Do not put anything heavy on the AC power cord.
  - Keep the AC power cord away from heat sources.



- If you damage the AC power cord, stop using it and ask your dealer or Sony service center to exchange it.
- Do not use the supplied AC power cord on any other equipment.
- Use only an original Sony AC power cord, not other brands.

AC power outlet

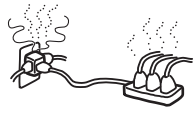
- The TV set with a three-wire grounding type AC power plug must be connected to a AC power outlet with a protective earthing connection.
- Do not use a poor fitting AC power outlet. Insert the plug fully into the AC power outlet. A poor fit may cause arcing and result in a fire. Contact your electrician to have the AC power outlet changed.

Cleaning the AC power plug

Unplug the AC power plug and clean it regularly. If the plug is covered with dust and it picks up moisture, its insulation may deteriorate and result in a fire.

Overloading

This TV set is designed to operate on a 220–240 V AC supply only. Take care not to connect too many appliances to the same AC power outlet as this could result in a fire or an electric shock.



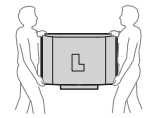
When not in use

- If you will not be using the TV set for several days, the TV set should be disconnected from the AC power outlet for environmental and safety reasons.

- The TV set is not disconnected from the AC power source when the TV set is switched off. To disconnect the TV set completely, pull the plug from the AC power outlet. However, some TV sets may have features which need the TV set to be left in standby to work correctly. The instructions in this manual will inform you if this applies.

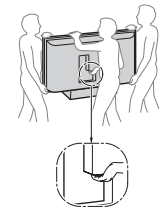
Carrying

KDL-46X2000/40X2000

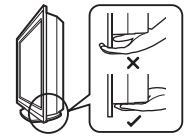


- Before carrying the TV set, disconnect all the cables from the TV set.
- Carrying the large size TV set requires two or three people.
- When you carry the TV set by hand, hold the TV set as illustrated on the right. When lifting the TV set or moving the panel of the TV set, hold it firmly from the bottom. Do not grasp the TV set at its fringe. If you do not do so, the TV set may fall and be damaged or cause serious injury.

KDL-52X2000



- When transporting it, do not subject the TV set to jolts or excessive vibration. The TV set may fall and be damaged or cause serious injury.
- If the TV set has been dropped or damaged, have it checked immediately by qualified service personnel.



- When you carry the TV set in for repair or when you move it, pack it using the original carton and packing material.

Placement

- The TV set should be installed near an easily accessible AC power outlet.
- Place the TV set on a stable, level surface. Do not hang anything on the TV set. If you do, the TV set may fall from the stand, causing damage or serious injury.

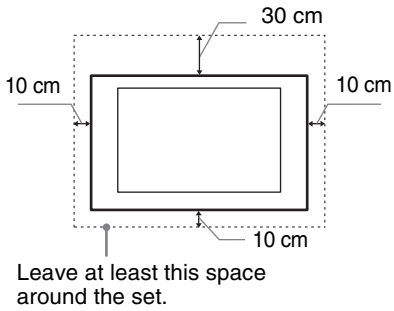
- Do not install the TV set in places subject to extreme temperature, for example in direct sunlight, or near a radiator, or heating vent. If the TV set is exposed to extreme temperature, the TV set may overheat and cause deformation of the casing or cause the TV set to malfunction.
- Do not install the TV set in a place exposed to direct air conditioning. If the TV set is installed in such a location, moisture may condense inside and may cause a malfunction.
- Never place the TV set in hot, only, humid or excessively dusty places.
- Do not install the TV set where insects may enter.
- Do not install the TV set where it may be exposed to mechanical vibration.

- Do not install the TV set in a location where it may protrude, such as on or behind a pillar, or where you might bump your head on it. Otherwise, it may result in injury.
- Do not allow children to climb on the TV set.
- If you use the TV set near the seashore, salt may corrode metal parts of the TV set and cause internal damage or fire.

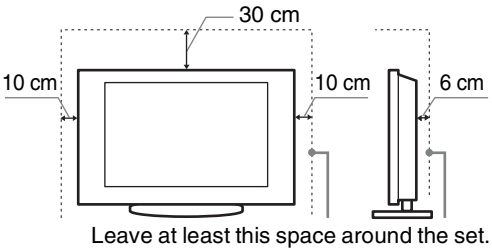
Ventilation

- Never cover the ventilation holes or insert anything in the cabinet. It may cause overheating and result in a fire.
- Unless proper ventilation is provided, the TV set may gather dust and get dirty. For proper ventilation, observe the following:
  - Do not install the TV set turned backwards or sideways.
  - Do not install the TV set turned over or upside down.
  - Do not install the TV set on a shelf or in a closet.
  - Do not place the TV set on a rug or bed.
  - Do not cover the TV set with cloth, such as curtains, or items such as newspapers, etc.
- Leave some space around the TV set as shown below. Otherwise, air-circulation may be inadequate and cause overheating, which may cause a fire or damage to the TV set.

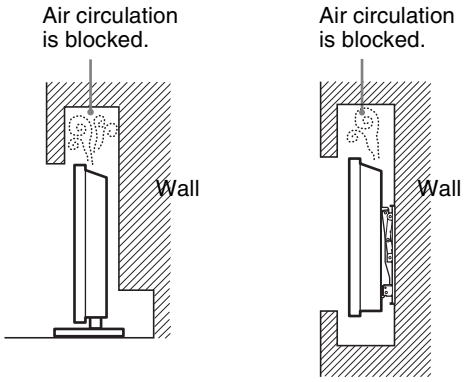
Installed on the wall



Installed with stand



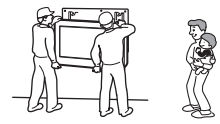
- Never install the TV set as follows:



Optional accessories

Observe the following when installing the TV set using a stand or wall-mount bracket. If you do not do so, the TV set may fall and cause serious injury.

- It is strongly recommended that you use Sony accessories for safety reasons:
  - Wall-mount bracket SU-WL51/SU-WL53
  - TV stand SU-FL61
- It is strongly recommended that you use the official Sony wall-mount bracket to allow adequate air circulation and to avoid accumulated dust on the TV.
- If the TV set is to be installed on a wall, have the installation carried out by qualified service personnel. Improper installation may render the TV set unsafe.



- Secure the TV set properly, following the instructions supplied with your stand when installing the TV set.
- Be sure to attach the brackets supplied with your stand.

Wiring

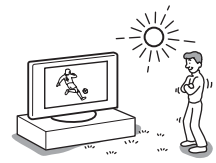
- When wiring cables, be sure to unplug the AC power cord for your safety.
- Take care not to catch your feet on the cables. It may damage the TV set.

Medical institutions

Do not place this TV set in a place where medical equipment is in use. It may cause a malfunction of medical instruments.

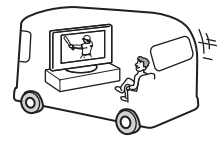
Outdoor use

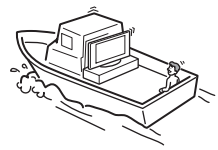
- Do not install this TV set outdoors. If the TV set is exposed to rain, it may result in a fire or an electric shock.
- If this TV set is exposed to direct sunlight, the TV set may heat up and it may damage the TV set.



Vehicle, Ships and other vessels

- Do not install this TV set in a vehicle. The motion of the vehicle may cause the TV set to fall down and cause injury.
- Do not install this TV set on a ship or other vessel. If the TV set is exposed to seawater, it may cause a fire or damage the TV set.



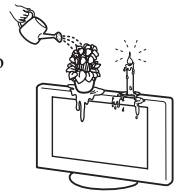


Continued

Water and moisture

- Do not use this TV set near water – for example, near a bathtub or shower room. Also do not expose to rain, moisture or smoke. This may result in a fire or an electric shock.
- Do not touch the AC power cord and the TV set with wet hands. Doing so may cause an electric shock or damage to the TV set.

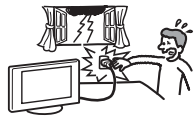
Moisture and flammable objects



- Do not place any objects on the TV set. The TV set shall not be exposed to dripping or splashing and that no objects filled with liquid, such as vases, shall be placed on the TV set.
- To prevent fire, keep flammable objects or naked lights (e.g. candles) away from the TV set.
- If any liquid or solid object does fall through openings in the cabinet, do not operate the TV set. It may result in an electric shock or damage to the TV set. Have it checked immediately by qualified service personnel.

Lightning storms

For your own safety, do not touch any part of the TV set, AC power cord, or antenna cord during lightning storms.



Broken pieces

- Do not throw anything at the TV set. The screen glass may break by the impact and cause serious injury.
- If the surface of the TV set cracks, do not touch it until you have unplugged the AC power cord. Otherwise electric shock may result.

Servicing

Dangerously high voltages are present inside the TV set.
Do not open the cabinet. Entrust the TV set to qualified service personnel only.

Small accessories removal and fittable

Keep small accessories out of children’s reach.

Precautions

Viewing the TV

- To view the TV comfortably, the recommended viewing position is from four to seven times the screen's vertical length away from the TV set.
- To obtain a clear picture, do not expose the screen to direct illumination or direct sunlight. If possible, use spot lighting directed down from the ceiling.
- View the TV in moderate light, as viewing the TV in poor light or during long period of time, strains your eyes.

Volume adjustment

- Adjust the volume so as not to trouble your neighbours. Sound carries very easily at night time. Therefore, closing the windows or using headphones is suggested.
- When using headphones, adjust the volume so as to avoid excessive levels, as hearing damage may result.

LCD Screen

- Although the LCD screen is made with high-precision technology and 99.99% or more of the pixels are effective, black dots may appear or bright points of light (red, blue, or green) may appear constantly on the LCD screen. This is a structural property of the LCD screen and is not a malfunction.
- Do not push or scratch the front filter, or place objects on top of this TV set. The image may be uneven or the LCD screen may be damaged.
- If this TV set is used in a cold place, a smear may occur in the picture or the picture may become dark. This does not indicate a failure. These phenomena disappear as the temperature rises.
- Ghosting may occur when still pictures are displayed continuously. It may disappear after a few moments.
- The screen and cabinet get warm when this TV set is in use. This is not a malfunction.
- The LCD screen contains a small amount of liquid crystal and mercury. The fluorescent tube used in this TV set also contains mercury. Follow your local ordinances and regulations for disposal.

Handling and cleaning the screen surface/cabinet of the TV set

Be sure to unplug the AC power cord connected to the TV set from AC power outlet before cleaning.
To avoid material degradation or screen coating degradation, observe the following precautions.

- Do not push on the screen, scratch it with a hard object, or throw anything at it. The screen may be damaged.
- Do not touch the display panel after operating the TV set continuously for a long period as the display panel becomes hot.
- We recommend that the screen surface be touched as little as possible.
- To remove dust from the screen surface/cabinet, wipe gently with a soft cloth. If dust is persistent, wipe with a soft cloth slightly moistened with a diluted mild detergent solution.
- Never use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzene, thinner or insecticide. Using such materials or maintaining prolonged contact with rubber or vinyl materials may result in damage to the screen surface and cabinet material.
- The ventilation holes can accumulate dust over time. To ensure proper ventilation, we recommend removing the dust periodically (once a month) using a vacuum cleaner.
- If the angle of the TV set is to be adjusted, steady the base of the stand with your hand to prevent the TV set from becoming separated from the stand. Be careful not to get your fingers caught between the TV set and the stand.
- Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet or screen surface of the TV.

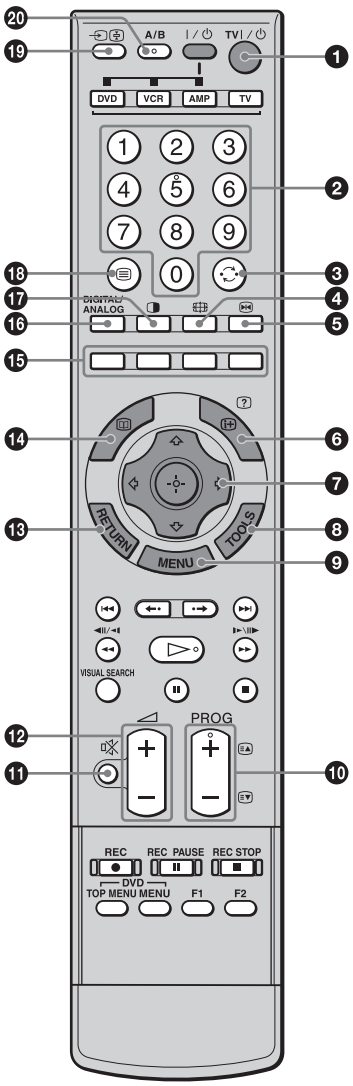
Optional Equipments

- Do not install optional components too close to the TV set. Keep optional components at least 30 cm away from the TV set. If a VCR is installed in front of the TV set or beside the TV set, the picture may become distorted.
- Picture distortion and/or noisy sound may occur if the TV set is positioned in close proximity to any equipment emitting electromagnetic radiation.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol is on the remote control.

Overview of the remote



❶ TV I/⏻ – TV standby

Switches off the TV temporarily and on from standby mode.

❷ Number buttons

- In TV mode: Selects channels. For channel numbers 10 and above, enter the second, third or fourth digit quickly.
- In Text mode: Enters the three digit page number to select the page.

❸ ↻ – Previous channel

Returns to the previous channel watched (for more than five seconds).

❹ ▭ – Wide mode (page 16)

❺ ▶‖ – Picture freeze (page 16)

Freezes the TV picture.

❻ ⊕/? – Info / Text reveal

- In digital mode (page 17): Displays details of the current or next program.
- In analog mode: Displays information such as current channel number and screen format.
- In Text mode (page 15): Reveals hidden information (e.g. answers to a quiz).

❼ ↑/↓/←/→/⊕ (page 15, 20)

❽ TOOLS (page 16, 19)

Enables you to access various viewing options and change/make adjustments according to the source and screen format.

❾ MENU (page 20)

❿ PROG +/-/▲/▼ (page 15)

- In TV mode: Selects the next (+) or previous (-) channel.
- In Text mode: Selects the next (▲) or previous (▼) page.

⓫ 🔇 – Mute (page 15)

⓬ +/- – Volume

⓭ RETURN

Returns to the previous screen of any displayed menu.

⓮ 📖

This button has no function for this TV.

⓯ Colored buttons (page 16)

⓰ DIGITAL/ANALOG (page 15)

⓱ ◑ – Twin Picture (page 17)

Displays two pictures simultaneously.

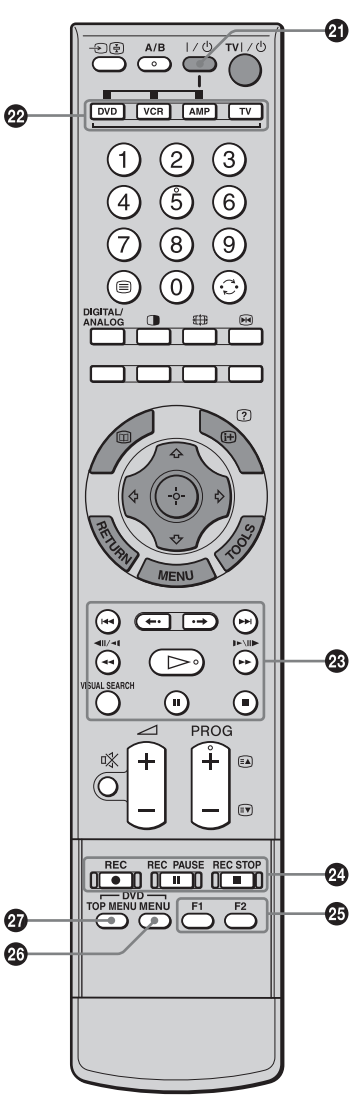
⓲ ☰ – Text (page 15)

⓳ →/⊟ – Input select / Text hold

- In TV mode (page 19): Selects the input source from equipment connected to the TV jacks.
- In Text mode (page 15): Holds the current page.

⓴ A/B – Dual Sound

Enables you to select for dual sound (page 25) and select the audio type (Dolby Digital or MPEG Audio) in Digital mode.



21 I/⏻

Switches on or off the optional equipment selected from the function buttons.

22 Function buttons

Enables you to operate the corresponding equipment. For details, see "Programming the remote" on page 40.

23 DVD/VCR operating buttons

- ⏮ : Replays the current program from the previous chapter mark (if any).
- ⏭ : Advances forward to the next chapter mark (if any).
- ⏪ : Replays the current program for a set period of time.
- ⏩ : Advances forward a set period of time.
- ◀◀ : Plays a program in fast reverse mode.
- ▶▶ : Plays a program in fast forward mode.
- ▷ : Plays a program at a normal speed.
- ❚❚ : Pauses the playback.
- ■ : Stops the playback.
- VISUAL SEARCH : Only for Sony DVD recorders with the visual search function. For details, see the operating instructions supplied with the DVD recorder.

24 DVD/VCR record buttons

- ● REC: Starts recording.
- ❚❚ REC PAUSE: Pauses the recording.
- ■ REC STOP: Stops the recording.

❚❚ REC PAUSE and ■ REC STOP are available only on DVD recorders.

25 F1/F2

- Selects a disc when using a DVD changer.
- Selects a function when using a combination unit (e.g. a DVD/VCR).

For details, see the operating instructions supplied with the DVD changer or combination unit.

26 DVD MENU

Displays the DVD disc menu.

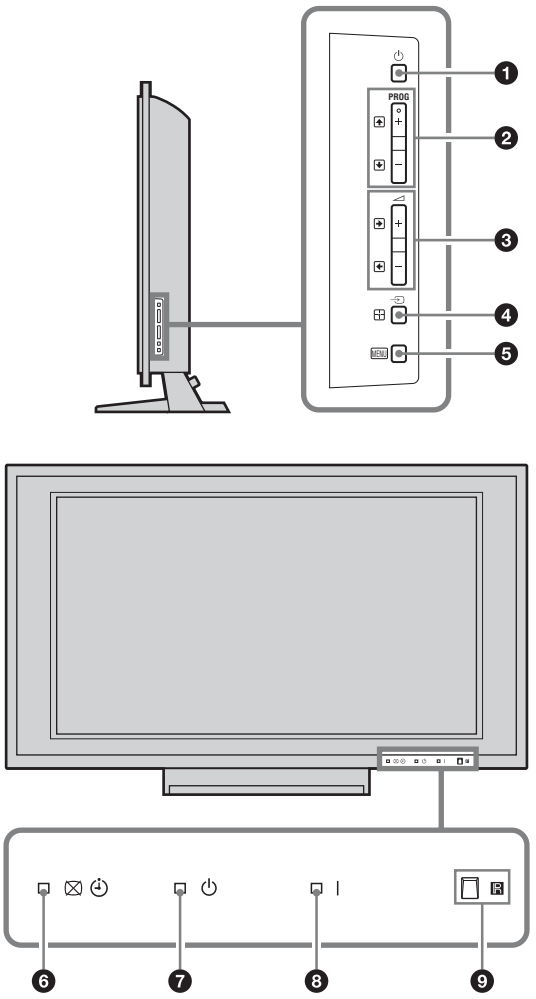
27 DVD TOP MENU

Displays the top menu of the DVD disc.

Tip

The number 5, ▷, PROG + and A/B buttons have tactile dots. Use the tactile dots as references when operating the TV.

Overview of the TV buttons and indicators



❶ ⏻ **– Power**

Switches the TV on or off.

❷ **PROG +/-/**🡅**/**🡇

- In TV mode: Selects the next (+) or previous (-) channel.
- In TV menu: Moves through the options up (🡅) or down (🡇).

❸ **+/-/**🡆**/**🡄

- In TV mode: Increases (+) or decreases (-) the volume.
- In TV menu: Moves through the options right (🡆) or left (🡄).

❹ **/ – Input select / OK**

- In TV mode (page 19): Selects the input source from equipment connected to the TV jacks.
- In TV menu: Selects the menu or option, and confirms the setting.

❺ **MENU (page 20)**

❻ **– Picture Off / Timer indicator**

- Lights up in green when the picture is switched off (page 28).
- Lights up in orange when the timer is set (page 28).

❼ ⏻ **– Standby indicator**

Lights up in red when the TV is in standby mode.

❽ **I – Power indicator**

Lights up in green when the TV is switched on. Flashes while the remote is being operated.

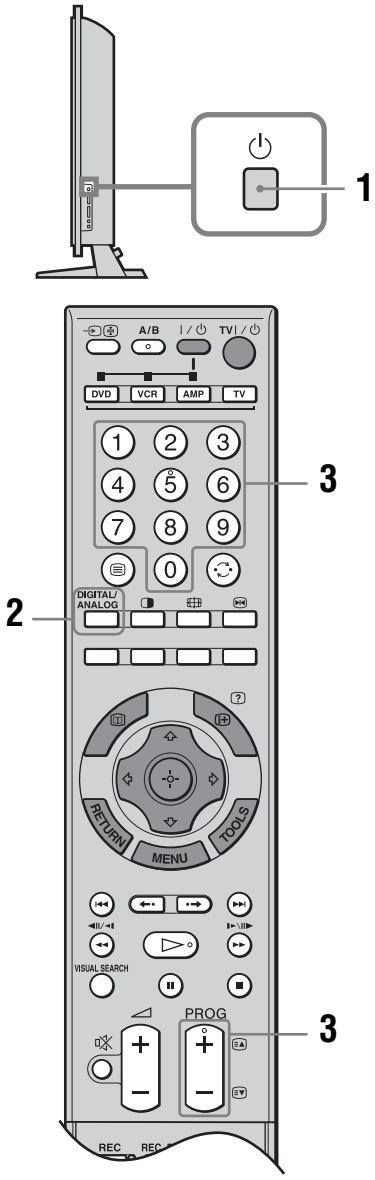
❾ **Remote control sensor/Light sensor (page 29)**

- Receives IR signals from the remote.
- Do not put anything over the sensor, as its function may be affected.

Note

Make sure that the TV is completely switched off before unplugging the AC power cord. Unplugging the AC power cord while the TV is turned on may cause the indicator to remain lit or may cause the TV to malfunction.

Watching TV



1 Press ⏻ on the TV (right side) to switch on the TV.

When the TV is in standby mode (the ⏻ (standby) indicator on the TV (front) is red), press TV I/⏻ on the remote to switch on the TV.

2 Press DIGITAL/ANALOG to switch between digital and analog modes.

The available channels vary depending on the mode.

3 Press the number buttons or PROG +/- to select a TV channel.

To select channel numbers 10 and above using the number buttons, enter the second, third or fourth digits quickly.
In digital mode, an information banner appears briefly. The following icons may be indicated on the banner.

In normal TV mode

SD: SD (or HD: HD)
RADIO: Radio service
PG: Parental rating
: Multi audio program
: Text service

In Twin Picture mode (page 17)

: Radio service
: Parental Lock

Additional operations

To	Do this
Switch off the TV temporarily (standby mode)	Press TV I/⏻.
Switch off the TV	Press ⏻ on the TV (right side).
Switch on the TV without sound from standby mode	Press 🔇. Press ◢ +/- to adjust the volume.
Adjust the volume	Press ◢ + (increase)/ - (decrease).
Mute the sound	Press 🔇. Press again to restore.

To access Text

Press ☰. Each time you press ☰, the display changes cyclically as follows:
Text and TV picture → Text → No Text (exit the Text service)
To select a page, press the number buttons or ▲/▼.
To hold a page, press →/⏸.
To reveal hidden information, press i/?.
To jump a page (in analog mode only), press ⊕ and ↑/↓, then press ⊕ (for three digit pages).

Continued

Tips

- Ensure that the TV is receiving a good signal, or some text errors may occur.
- When four colored items appear at the bottom of the Text page, Fastext is available (in analog mode only). Fastext allows you to access pages quickly and easily. Press the corresponding colored button to access the page.

To freeze the picture – Picture freeze

You can freeze the current picture to make a note of a telephone number or recipe.

1 Press ⏯.

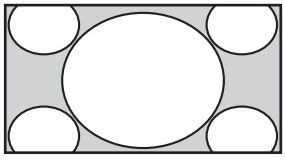
The frozen picture is displayed on the right of the screen. You can watch a moving picture on the left.

2 Press RETURN or ⏯ again to return to normal TV mode.

To change the screen format manually – Wide Mode

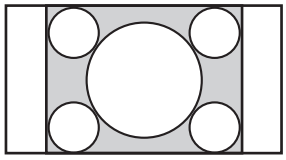
Press ⬚ repeatedly to select Wide Zoom, Normal, Full or Zoom.

Wide Zoom*



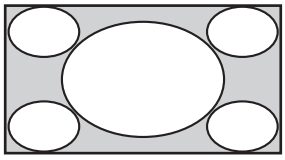
Enlarges the center portion of the picture. The left and right edges of the picture are stretched to fill the 16:9 screen.

Normal



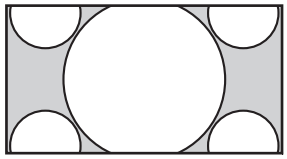
Displays the 4:3 picture in its original size. Side bars are shown to fill the 16:9 screen.

Full



Stretches the 4:3 picture horizontally, to fill the 16:9 screen.

Zoom*



Displays cinemascopic (letter box format) broadcasts in the correct proportions.

* Parts of the top and bottom of the picture may be cut off.

Tips

- This feature is not available in digital mode.
- Alternatively, you can set “Auto Wide” to “On”. The TV will automatically select the best mode to suit the input from an external equipment (page 26).
- In Wide Zoom or Zoom, you can adjust the picture position (e.g. to read subtitles) using the Vertical Shift option selected from Tools menu (see below).
- “Full 1”, “Full 2” and “Normal” are available for “Wide Mode” when PC input is selected (page 36).

To use the Tools menu

Press TOOLS to display the following options when viewing a TV program.

Options	Description
Close	Closes the Tools menu.
Twin Picture (or Single Picture)	See page 17
Picture Mode	See page 21
Sound Mode	See page 24
Favorite List (in digital mode only)	See page 18
PIP Program List (in digital mode only)	See page 17
Power Saving	See page 28
Vertical Shift (in analog mode only)	See page 27
Vertical Size (in analog mode only)	See page 27
Sleep Timer	See page 28

To view two pictures simultaneously – Twin Picture

You can view two TV program pictures (in analog, digital or external input mode) on the screen simultaneously.

Notes

- Two pictures having the same (analog or digital) format, cannot be seen side-by-side in Twin Picture mode.
- This function is not available for a PC input source.
- You cannot change the size of the pictures.

1 Press ◑.

The audible picture is framed in green.

2 Press number buttons or PROG +/- to select the channel for an audible picture. Press ⇧/⇩ for an inaudible picture.

To return to normal TV mode

Press ◑ or RETURN.

Tips

- You can switch the audible picture by pressing ⇦/⇨.
- You can also return to normal TV mode by selecting "Single Picture" from the Tools menu, or by pressing ⊕.
- Pictures input through the HDMI and component jacks are displayed on the left screen.
- You can also use the Twin Picture feature by selecting "Twin Picture" from the Tools menu.

To view two pictures simultaneously – PIP (Picture in Picture) (in digital mode only)

This feature allows you to view a different sub-channel in a window and also access multiview services (when available from broadcaster, e.g. different camera angles).

1 Press TOOLS to display the Tools menu.

2 Press ⇧/⇩ to select "PIP Program List", then press ⊕.

3 Press ⇧/⇩ to select the required channel/ multiview service, then press ⊕.

To return to normal TV mode

Select "PIP Program List" from the Tools menu. Then, select "Close PIP".

Note

Depending on the broadcast signal, the image displayed on the PIP sub screen may be smaller than its frame size.

i-Plate display

For a single picture in digital mode, this feature gives you information on the current channel and also the current and next programs.

1 Press i+ to display the i-Plate.

This shows the date, time, whether the channel has text service, whether multi (MPEG and Dolby Digital) audio program available and whether the picture is available in high definition or standard definition (HD or SD is displayed).

2 Press i+ to display information on the following program.

3 Press i+ again (or MENU) to turn off the i-Plate display and return to normal operation.

The following icons may be displayed on the i-Plate display according to the program.

SD : SD (or HD: HD)
PG : Parental rating
:Multi audio program
:Text service

Tip

The code coming after MPEG determines the language type. For detail, refer to "i-Plate Display Language Code" on page 42.

Using the Favorite List DVB*

Favorite List

The Favorite feature allows you to select programs from a list you specify. To display the Favorite List, see “Navigating through menus” (page 20).

* This function may not be available in some areas.

To	Do this
Create your Favorite List	Follow the steps of “Favorite Preset” (page 34) in Digital Setup menu.
Watch a Favorite channel	**1** Press MENU to display the menu (page 20). **2** Press ↑/↓ to select “Digital Favorite List”, then press ⊕. **3** Press ←/→ to select “Favorite List 1” or “Favorite List 2”. **4** Press ↑/↓ to select your favorite channel. **5** Press ⊕ to exit the Favorite List and display the selected channel. **Tip** Once you select a channel within your Favorite List of channels, pressing PROG +/- will select only channels from your Favorite List. To select a channel that has not been programmed as a Favorite List channel, use the Program List feature or the number buttons.
Turn off the Favorite list	Press MENU.

Viewing pictures from connected equipment

Switch on the connected equipment, then press →/⊞ repeatedly until the correct input symbol (see below) appears on the screen. For details of connecting the other equipment, see page 37.

On screen display	Labels of input jacks
→ Video 1 or S→ Video 1	→1 or S→1, and ←1 (L (MONO), R)
→ Video 2, →→ Video 2 or S→ Video 2	→2, →→2 (Y, PB/CB, PR/CR)*1 or S→2, and ←2 (L (MONO), R)
→ Video 3	→3 and ←3 (L (MONO), R)
→→ HD/DVD 1	→→1 (Y, PB/CB, PR/CR) and ←1 (L, R)
→→ HD/DVD 2	→→2 (Y, PB/CB, PR/CR)*2 and ←2 (L, R)
→→ HDMI 1	HDMI IN 1
→→ HDMI 2	HDMI IN 2, or, HDMI IN 2 and ←HDMI IN 2 (L, R)
→→ PC	→→(RGB) PC IN and ←PC IN

*1 Located on the side of the TV
*2 Located on the rear of the TV

To return to normal TV mode

Press DIGITAL/ANALOG.

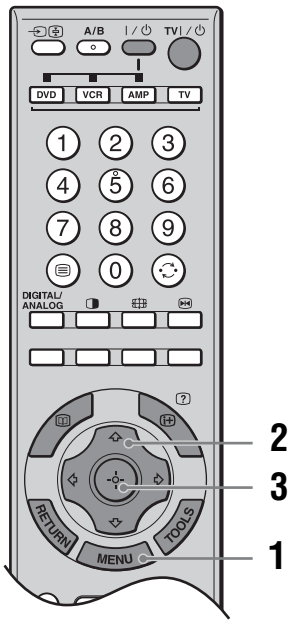
To use the Tools menu

Press TOOLS to display the following options when viewing pictures from connected equipment other than a PC.

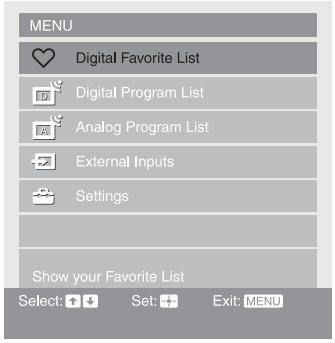
Options	Description
Close	Closes the Tools menu.
Twin Picture (or Single Picture)	See page 17
Picture Mode	See page 21
Sound Mode	See page 24
Power Saving	See page 28
Vertical Shift	See page 27
Vertical Size	See page 27
Sleep Timer	See page 28

Navigating through menus

"MENU" allows you to enjoy various convenient features of this TV. You can easily select channels or inputs sources and change the settings for your TV.



1 Press MENU to display the menu.



Icon	Description
	Digital Favorite List* Displays the Favorite List. For details about settings, see page 34.
	Digital Program List* Displays available digital TV channels.
	Analog Program List Displays available analog TV channels. • To assign a label to a channel, see page 31.
	External Inputs Selects equipment connected to your TV. • To watch the desired external input, select the input source, then press ⊕. • To assign a label to an external input, select "Edit Video Labels", then see page 30.
	Settings Displays the Settings menu where most of the advanced settings and adjustments are performed. For details about settings, see page 21 to 34. **Note** The options you can adjust vary depending on the situation. Unavailable options are grayed out or not displayed.

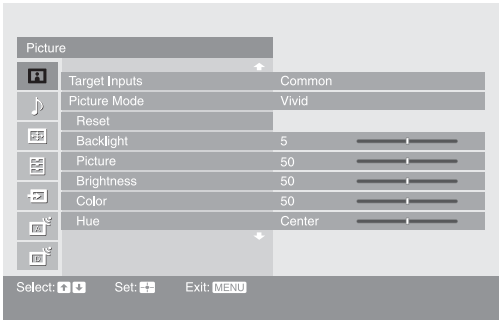
* This function may not be available in some areas.

2 Press ⇧/⇩ to select an option.

3 Press ⊕ to confirm a selected option.

To exit the menu, press MENU.

Picture menu



You can select the options listed below on the Picture menu.

1 Press ⇧/⇩ to select “Settings” on MENU, then press ⊕.

2 Press ⇧/⇩ to select a menu icon, then press ⊕.

3 Press ⇧/⇩/⇦/⇨ to select an option.

Target Inputs

For the input currently being viewed, select whether to use the common setting or to set each item separately.
“Common”: Applies common settings whose adjustments are shared with other inputs in which “Target Inputs” is set to “Common”.
Current input name (e.g. Video 1): Allows you to set each option separately for the current input.

Tip

Set each input to “Common” if you require the same settings to apply to each input.

Picture Mode

Selects the picture mode.
“Vivid”: For enhanced picture contrast and sharpness.
“Standard”: For standard picture. Recommended for home entertainment.
“Custom”: Allows you to store your preferred settings.

Reset

Resets all the “Picture” settings except “Target Inputs” and “Picture Mode” to the factory settings.

Tip

“Advanced Settings” (page 23) is also not reset. Select “Reset” in “Advanced Settings” to reset items in “Advanced Settings”.

Backlight

Adjusts the brightness of the backlight.

Picture

Increases or decreases picture contrast.

Brightness

Brightens or darkens the picture.

Color

Increases or decreases color intensity.

Hue

Increases or decreases the green tones and red tones.

Tip

“Hue” can only be adjusted for an NTSC color signal (e.g. U.S.A. video tapes).

Continued

Color Temperature

Adjusts the whiteness of the picture.
“Cool”: Gives the white colors a blue tint.
“Neutral”: Gives the white colors a neutral tint.
“Warm 1”/“Warm 2”: Gives the white colors a red tint. “Warm 2” gives a redder tint than “Warm 1”.

Tip

“Warm 1” and “Warm 2” can only be selected when you set “Picture Mode” to “Custom”.

Sharpness

Sharpens or softens the picture.

Noise Reduction

Reduces the picture noise (snowy picture).
“Auto”: Automatically reduces the picture noise.
“High”/“Medium”/“Low”: Modifies the effect of the noise reduction.
“Off”: Turns off the Noise Reduction feature.
“BNR”: Reduces the block picture noise. This is effective for digital channels, or a connected DVD player/digital receiver with MPEG playback.

Tips

- “Auto” is not available when watching component, HDMI or digital RF inputs.
- “Noise Reduction” is not available when using Freeze or Twin Picture features.

DRC Mode

Selects a high-resolution picture with 4x density, for high quality sources (e.g. DVD players, receivers).
“Mode 1”: Recommended for moving pictures.
“Mode 2”: Recommended for still images and text.
“Off”: Turns off the DRC Mode.

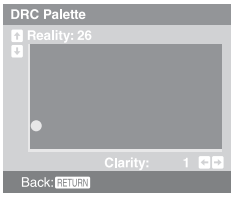
Tip

“DRC Mode” is not available when “Game Mode” is set to “On” or when using Freeze or Twin Picture features; also not available when watching 480p, 576p, 720p, 1080i or 1080p sources.

DRC Palette

Customizes the level of detail (“Reality”) and smoothness (“Clarity”) for each input signal. For example, you can create a custom setting for your cable input’s picture, and create another for your DVD player’s pictures.

The DRC palette appears.



Press ⇧/⇩/⇦/⇨ to adjust the position of the marker (●).
As you move the ● higher along the “Reality” axis, the picture becomes more detailed. As you move the ● to the right along the “Clarity” axis, the picture becomes smoother.

Tip

“DRC Palette” is not available when “Game Mode” is set to “On”, “DRC Mode” is set to “Off” or when using Freeze or Twin Picture features; also not available when watching 480p, 576p, 720p, 1080i or 1080p sources.

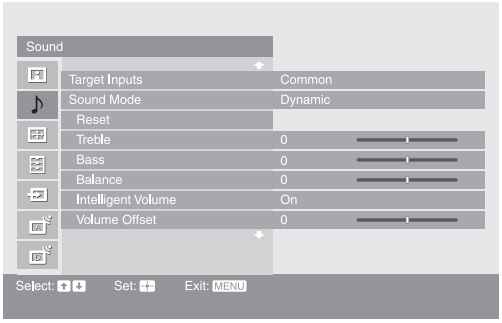
Advanced Settings

Customizes the Picture function in more detail. When you set “Picture Mode” to “Custom”, you can set/change these settings.
“Reset”: Resets all the advanced settings to the factory settings.
“Black Corrector”: Enhances black areas of the picture for stronger contrast.
“Adv. Contrast Enhancer”: Automatically adjusts “Backlight” and “Picture” to the most suitable settings judging from the brightness of the screen. This setting is especially effective for dark image scenes. It will increase the contrast distinction of the darker picture scenes.
“Gamma”: Adjusts the balance between bright and dark areas of the picture.
“Clear White”: Emphasizes white colors.
“Live Color”: Makes colors more vivid.
“Color Space”: Changes the color reproduction gamut. “Wide” reproduces the vivid color and “Normal” reproduces the standard color.
“White Balance”: Adjusts the color temperature color by color.
“Detail Enhancer”: Enhances the details of the picture.
“Edge Enhancer”: Enhances the outline of the picture.

Tips

- “Adv. Contrast Enhancer” and “Detail Enhancer” are not available when using Freeze or Twin Picture features.
- “Live Color” is not available when “Color Space” is set to “Normal”.

Sound menu



You can select the options listed below on the Sound menu. To select options in “Settings”, refer to “Picture menu” (page 21).

Target Inputs	For the input currently being viewed, select whether to use the common setting or to set each item separately. “Common”: Applies common settings whose adjustments are shared with other inputs in which “Target Inputs” is set to “Common”. Current input name (e.g. Video 1): Allows you to set each option separately for the current input. **Tip** Set each input to “Common” if you require the same settings to apply to each input.
Sound Mode	Selects the sound mode. “Dynamic”: Enhances treble and bass. “Standard”: For standard sound. Recommended for home entertainment. “Custom”: Flat response. Also allows you to store your preferred settings.
Reset	Resets all the “Sound” settings except “Target Inputs”, “Sound Mode” and “Dual Sound” to the factory settings.
Treble	Adjusts higher-pitched sounds.
Bass	Adjusts lower-pitched sounds.
Balance	Emphasizes left or right speaker balance.
Intelligent Volume	Keeps a constant volume level even when volume level gaps occur (e.g. adverts tend to be louder than programs).
Volume Offset	Adjusts the volume level of the current input relative to other inputs, when “Target Inputs” is set to the current input name (e.g. Video 1).
Surround	Selects the surround mode. “Dolby Virtual”: Uses the TV speakers to simulate the surround effect produced by a multi channel system. “Simulated Stereo”: Adds a surround-like effect to mono programs. “Off”: For normal stereo or mono reception.

BBE

Gives sound more impact by compensating for phase effects in speakers using the "BBE High Definition Sound System" when "Sound Mode" is set to "Custom". To reproduce sounds with impact, select "High" (more impact) or "Low" (less impact). Otherwise select "Off".

Dual Sound

Selects the sound from the speaker for a stereo or bilingual broadcast. The selection varies, depending on the Broadcasting.

Broadcasting	Selection
NICAM stereo	Stereo (stereo sound) Mono (regular sound)
NICAM bilingual	Main (main sound) Sub (sub sound) Mono (regular sound)
NICAM monaural	Main (main sound) Mono (regular sound)
A2 (German) stereo	Stereo (stereo sound) Mono (regular sound)
A2 (German) bilingual	Main (main sound) Sub (sub sound)

Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "Mono". The sound becomes monaural, but the noise is reduced.
- The Dual Sound setting is memorized for each program position.
- You cannot receive a stereo broadcast signal when "Mono" is selected for the program position.
- You cannot receive stereo or dual sound when "Low" or "High" is selected in "Audio Filter" (page 32).

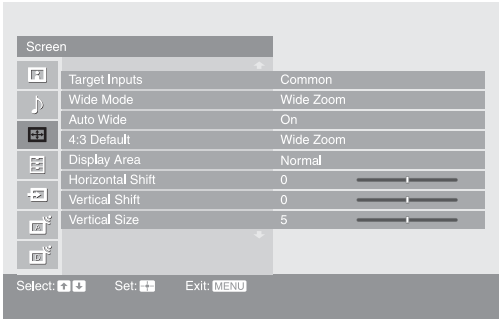
Tips

- If you select other equipment connected to the TV, set "Dual Sound" to "Stereo", "Main" or "Sub".
- This option is not available in digital mode.

Tip

Sound menu options other than "Dual Sound" cannot be used for headphones and audio output jacks.

Screen menu



You can select the options listed below on the Screen menu. To select options in “Settings”, refer to “Picture menu” (page 21).

Target Inputs

For the input currently being viewed, select whether to use the common setting or to set each item separately.
“Common”: Applies common settings whose adjustments are shared with other inputs in which “Target Inputs” is set to “Common”.
Current input name (e.g. Video 1): Allows you to set each option separately for the current input.

Tip

Set each input to “Common” if you require the same settings to apply to each input.

Wide Mode

For details about “Wide Mode”, see “To change the screen format manually – Wide Mode” (page 16).

Tip

This option is not available in digital mode.

Auto Wide

Automatically changes “Wide Mode” according to the input signal from external input. To keep your setting, select “Off”.

Tip

Even if “Auto Wide” is set to “On” or “Off”, you can always modify the format of the screen by pressing repeatedly.

4:3 Default

Selects the default screen format for use with 4:3 sources from external input.
“Wide Zoom”: Enlarges the 4:3 picture to fill the 16:9 screen, keeping the original image as much as possible.
“Normal”: Displays conventional 4:3 sources in the correct proportions.
“Off”: Keeps the current “Wide Mode” setting when the channel or input is changed.

Tip

This option is available only if “Auto Wide” is set to “On”.

Display Area

Adjusts the screen area displaying the picture.
“Full Pixel”: Displays the picture for 1080i or 1080p sources in the original size when parts of the picture are cut off.
“Normal”: Displays the picture in the original size.
“-1”/“-2”: Enlarges the picture to hide the edge of the picture.

Horizontal Shift

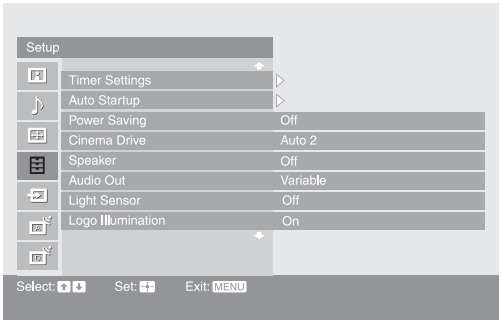
Adjusts the horizontal position of the picture.

Tip

This option is not available when “Display Area” is set to “Full Pixel”.

Vertical Shift	Adjusts the vertical position of the picture when “Wide Mode” is set to “Wide Zoom” or “Zoom”. **Tip** This option is not available in digital mode.
Vertical Size	Adjusts the vertical size of the picture when “Wide Mode” is set to “Wide Zoom”. **Tip** This option is not available in digital mode.

Setup menu



You can select the options listed below on the Setup menu. To select options in “Settings”, refer to “Picture menu” (page 21).

Timer Settings

Sets the timer to switch on/off the TV.

Sleep Timer

Sets a period of time after which the TV automatically switches itself into standby mode.
When the Sleep Timer is activated, the ⏲ (Timer) indicator on the TV (front) lights up in orange.

Tips

- If you switch off the TV and switch it on again, “Sleep Timer” is reset to “Off”.
- “TV will soon turn off by Sleep Timer” appears on the screen one minute before the TV switches to standby mode.

On Timer

Sets the timer to switch on the TV from standby mode.
“Day”: Selects the day on which you want to activate the On Timer.
“Time”: Sets the time to switch on the TV.
“Duration”: Selects the time period after which the TV automatically switches to standby mode again.
“Volume Setup”: Sets the volume for when the timer switches on the TV.

Clock Set

Sets the clock using the following menu selections in “Time Adjustment”.
“Auto”: The clock is set automatically when a digitally broadcast time signal is received.
“Manual”: Sets the clock manually when digital channels have not been stored, or when you cannot receive the time correctly. Set the “Day” and “Time”.

Auto Startup

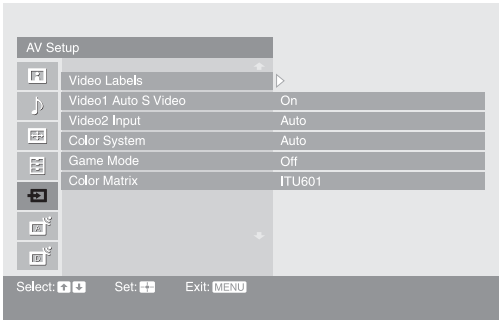
Starts the “first time operation menu” to tune in available digital and analog channels and set the time. Usually, you do not need to do this operation because channels already tuned when the TV was first installed (page 6). However, this option allows you to repeat the process (e.g. to retune the TV after moving house, or to search for new channels that have been launched by broadcasters).

Power Saving

Selects the power saving mode to reduce the power consumption of the TV.
When “Picture Off” is selected, the picture is switched off and the ⊠ (Picture Off) indicator on the TV (front) lights up in green. The sound remains unchanged.

Cinema Drive	Provides smoother picture movement when playing DVD or VCR images taken on film, reducing picture blur and graininess. “Auto 1”: For a stable picture with minimal noise. Set to “Auto 2” if the screen is partially degraded. “Auto 2”: Use this setting for standard use. “Off”: Turns off the Cinema Drive. **Notes** • Even if “Auto 1” or “Auto 2” is selected, “Cinema Drive” will be automatically turned off and a moving image will not be played smoothly if the image contains irregular signals or too much noise. • “Cinema Drive” is not available when using Freeze or Twin Picture features, or when watching 480p, 576p, 720p or 1080p sources.
Speaker	Switches on/off the TV’s internal speakers. “On”: The TV speakers are turned on in order to listen to the TV’s sound through the TV speakers. “Off”: The TV speakers are turned off in order to listen to the TV’s sound only through your external audio equipment connected to the audio output jacks.
Audio Out	“Variable”: The audio output from your audio system can be controlled by the TV’s remote. “Fixed”: The audio output of the TV is fixed. Use your audio receiver’s volume control to adjust the volume (and other audio settings) through your audio system.
Light Sensor	“On”: Automatically optimizes the picture settings according to the ambient light in the room. “Off”: Turns off the “Light Sensor” feature.
Logo Illumination	Lights up and turns off the Sony logo on the front of the TV.
Product Information	Displays your TV’s product information.
All Reset	Resets all settings to the factory settings and then displays the Auto Startup screen. **Note** All settings, including Digital Favorite list, auto tuned channels, etc. will be reset.

AV Setup menu



You can select the options listed below on the AV Setup menu. To select options in “Settings”, refer to “Picture menu” (page 21).

Video Labels

Assigns a name to any equipment connected to the side and rear jacks. The name will be displayed briefly on the screen when the equipment is selected. You can skip input signals from connected equipment that you do not want displayed on the screen.

1 Press ⇧/⇩ to select the desired input source, then press ⊕.

2 Press ⇧/⇩ to select the desired option below, then press ⊕.

Equipment labels: Uses one of the preset labels to assign a name to connected equipment.

“Edit”: Creates your own label. Follow steps 2 to 4 of “Program Labels” (page 31).

“Skip”: Skips an unnecessary input source.

Video1 Auto S Video

Selects the input signal from S video jack S 1 when S / 1 jacks are both connected.

“On”: Switches automatically between the S video jack and the composite video jacks on the rear of the TV depending on the cable connection.

“Off”: Activates the composite video jacks on the rear of the TV.

Video2 Input

“Auto”: Switches automatically between the component video jacks, S video jack, and the composite video jacks on the left side of the TV depending on the cable connection.

“Component”: Activates the component video jacks on the left side of the TV.

“S Video”: Activates the S video jack on the left side of the TV.

“Composite”: Activates the composite video jacks on the left side of the TV.

Tip

When multiple cables are connected and “Auto” is selected, “Component”, “S Video”, “Composite” will be activated in that order.

Color System

Selects the color system (“Auto”, “PAL”, “SECAM”, “NTSC3.58” or “NTSC4.43”) according to the input signal from the input source.

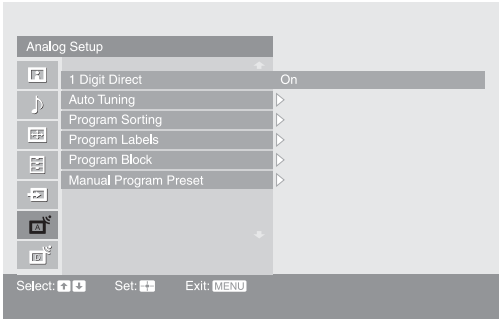
Game Mode

Depending on the game software, reaction times may slow during fast-moving scenes, etc. Select “On” to improve the reaction times.

Color Matrix

Usually used in the factory setting (Video1/2 (Composite and S video input signal) is set to “ITU601”, and Video 2 (Component input signal)/HD/DVD 1/2/HDMI 1/2 is set to “Auto”). If the tone of the picture from the input source is unnatural, select either “ITU601” or “ITU709”, which normalizes the tone.

Analog Setup menu



You can select the options listed below on the Analog Setup menu. To select options in “Settings”, refer to “Picture menu” (page 21).

1 Digit Direct

When “1 Digit Direct” is set to “On”, you can select an analog channel using one preset number button (0 - 9) on the remote.

Note

When “1 Digit Direct” is set to “On”, you cannot select channel numbers 10 and above entering two digits using the remote.

Auto Tuning

Tunes in all the available analog channels.
Usually you do not need to do this operation because the channels are already tuned when the TV was first installed (page 6). However, this option allows you to repeat the process (e.g. to retune the TV after moving house, or to search for new channels that have been launched by broadcasters).

Program Sorting

Changes the order in which the analog channels are stored on the TV.

1 Press ↑/↓ to select the channel you want to move to a new position, then press ⊕.
2 Press ↑/↓ to select the new position for your channel, then press ⊕.

Program Labels

Assigns a channel name of your choice up to five letters or numbers. The name will be displayed briefly on the screen when the channel is selected.

1 Press ↑/↓ to select the channel you want to name, then press ⊕.
2 Press ↑/↓ to select the desired letter or number (“_” for a blank space), then press →.

If you input a wrong character

Press ←/→ to select the wrong character. Then, press ↑/↓ to select the correct character.

To delete all the characters

Select “Reset”, then press ⊕.

3 Repeat the procedure in step 2 until the name is complete.
4 Select “OK”, then press ⊕.

Program Block

Blocks an individual channel from being watched.

1 Press ↑/↓ to select the channel you want to block, then press ⊕.
2 Press ↑/↓ to select “Block”, then press ⊕.
To watch the channel, select “Allow”.

Continued

Manual Program Preset

Before selecting “Label”/“AFT”/“Audio Filter”/“Skip”/“Color System”, press PROG +/- to select the program number with the channel. You cannot select a program number that is set to skip (see below).

Program/TV System

Presets program channels manually.

1. Press ⇧/⇩ to select “Program”, then press ⊕.
2. Press ⇧/⇩ to select the program number you want to manually tune (if tuning a VCR, select channel 00), then press ⊕.
3. Press ⇧/⇩ to select “TV System”, then press ⊕.
4. Press ⇧/⇩ to select the best received TV broadcast systems, then press ⊕.
5. Press ⇧/⇩ to select “VHF Low”, “VHF High” or “UHF”, then press ⊕.
6. Press ⇦/⇨ until the desired channel’s broadcast appears on the TV screen, then press ⊕.

Label

Assigns a name of your choice, up to five letters or numbers, to the selected channel. This name will be displayed briefly on the screen when the channel is selected.
To input characters, follow steps 2 to 4 of “Program Labels” (page 31).

AFT

Allows you to fine-tune the selected program number manually if you feel that a slight tuning adjustment will improve the picture quality.
You can adjust the fine tuning over a range of -15 to +15. When “On” is selected, the fine tuning is performed automatically.

Audio Filter

Improves the sound for individual channels in the case of distortion in mono broadcasts. Sometimes a non-standard broadcast signal can cause sound distortion or intermittent sound muting when watching mono programs.
If you do not experience any sound distortion, we recommend that you leave this option set to the factory setting “Off”.

Note

You cannot receive stereo or dual sound when “Low” or “High” is selected.

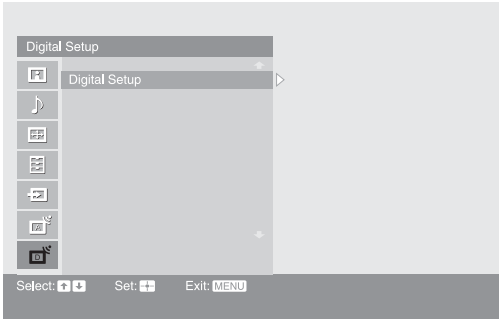
Skip

Skips unused analog channels when you press PROG +/- to select channels. (You can still select a skipped channel using the number buttons.)

Color System

Selects the color system (“Auto”, “PAL”, “SECAM”, “NTSC3.58”, or “NTSC4.43”) according to the channel.

Digital Setup menu DVB



You can select the options listed below on the Digital Setup menu. To select options in "Settings", refer to "Picture menu" (page 21).

Note

Some functions may not be available in some areas.

Digital Settings

Displays the "Digital Settings" menu.

Audio Setup

This option enables you to enjoy audio in various environments.
"Audio Output Control": Sets the priority for digital audio output (optical) (when "Dolby Digital" and "MPEG" audio are available).
"MPEG Audio Adjustment": Adjusts MPEG audio Control level to Dolby Digital audio level.

Time Setup

Sets the time zone in which you are using the TV. For details, refer to "5: Auto-tuning the TV" on page 6.

Digital Tuning

Displays the "Digital Tuning" menu.

Full Scan

Tunes in all the available digital channels.
Usually you do not need to do this operation because the channels were already tuned when the TV was first installed (page 6). However, this option allows you to repeat the process (e.g. to retune the TV after moving house, or to search for new channels that have been launched by broadcasters). For details, refer to "5: Auto-tuning the TV" on page 6.

Quick Scan

Tunes in all the expected digital channels in your area.
Usually you do not need to do this operation because the channels were already tuned when the TV was first installed (page 6). However, this option allows you to repeat the process (e.g. to retune the TV after moving house, or to search for new channels that have been launched by broadcasters). For details, refer to "5: Auto-tuning the TV" on page 6.

Manual Scan

This option allows channels to be manually tuned and stored. Due to the technical nature of the settings, it is recommended that only experienced service personnel use this option.

Continued

Favorite Preset

Presets Favorite List 1 and Favorite List 2.

1 Press ⇧/⇩ to select “Favorite List 1” or “Favorite List 2”, then press ⊕.

2 Press ⇧/⇩ to select the desired allocation number, then press ⊕.

3 Press ⇧/⇩ to select the channel you want to allocate, then press ⊕.

To overwrite a new channel selection (over one that has been pre-allocated), follow step 3 to select the newly desired channel, then press ⊕.
To delete a pre-allocated channel, follow step 2 (to select the desired channel), then select “Delete” in step 3.

Parental Control

Sets a parental guidance level. Programs that exceed the set level can only be watched after entering the correct password. The password is initially set to “0000”. If you want to change the password, follow “To change the password” (see below).

1 Press the number buttons to enter your password.

2 Press ⇧/⇩ to select “Parental Rating”, then press ⊕.

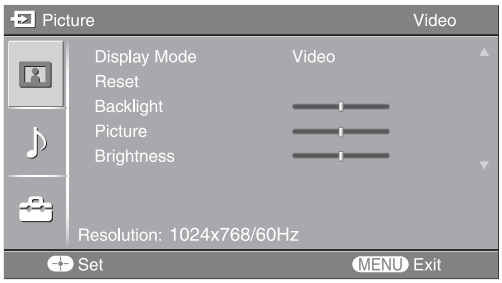
3 Press ⇧/⇩ to select the level you want to set (refer to the table below), then press ⊕.

Level	Function
Block All	All programs need a password to view.
Block G and above	To lock “General” and above programs.
Block PG and above	To lock “Parental Guidance” and above programs.
Block M and above	To lock “Mature” and above programs.
Block MA and above	To lock “Mature Adult” and above programs.
Block AV and above	To lock “Adult/Violence” and above programs.
Block R and above	To lock “Restricted” and above programs.
No Block (default setting)	No programs need a password to view.

To change the password

Select “Change Password” in step 2 above, then press ⊕. Enter the new password using the number buttons. Enter the new password again.

PC Settings menu



You can select the options listed below on the PC Settings menu when the TV is connected to a PC.

1 Press →/↓ repeatedly until →PC appears on the screen.

2 Press MENU to display the PC settings menu.

Note

When you connect a PC to your TV for the first time, you may need to adjust the screen display. In such cases, perform "Auto Adjustment" or adjust the "Phase", "Pitch", "Horizontal Shift", or "Vertical Shift" in "Others" (page 36).

Picture

Display Mode	Selects the display mode. "Video": Select to view video images. "Text": Select to view text, charts or tables.
Reset	Resets all the "Picture" settings except "Display Mode" to the factory settings.
Backlight	Adjusts the brightness of the backlight.
Picture	Increases or decreases picture contrast.
Brightness	Brightens or darkens the picture.
Color Temperature	Adjusts the whiteness of the picture. "Cool": Gives the white colors a blue tint. "Neutral": Gives the white colors a neutral tint. "Warm 1"/"Warm 2": Gives the white colors a red tint. "Warm 2" gives a redder tint than "Warm 1".

Sound

Sound Mode	Selects the sound mode. "Dynamic": Enhances treble and bass. "Standard": For standard sound. Recommended for home entertainment. "Custom": Provides a flat response. Sound quality as customised on the connected PC is maintained in the TV sound.

Continued

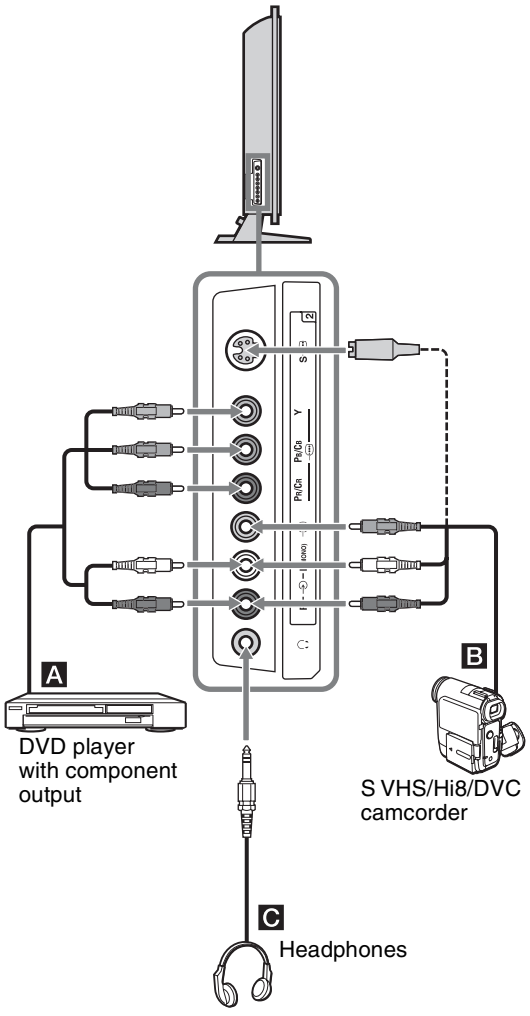
Others

Auto Adjustment	Automatically adjusts the display position, phase and pitch of the picture when the TV receives an input signal from a connected PC. **Tip** Auto Adjustment may not work well with some input signals. In such cases, manually adjust "Phase", "Pitch", "Horizontal Shift" and "Vertical Shift".
Reset	Resets all the "Others" settings to the factory settings.
Phase	Adjusts the phase when the screen flickers.
Pitch	Adjusts the pitch when the picture has unwanted vertical stripes.
Horizontal Shift	Adjusts the horizontal position of the picture.
Vertical Shift	Adjusts the vertical position of the picture.
Wide Mode	Selects the screen format for signals with a 60 Hz vertical frequency. "Normal": Displays the picture in its original size. "Full 1": Enlarges the picture to fill the display area, keeping its original horizontal-to-vertical aspect ratio. "Full 2": Enlarges the picture to fill the display area.
Power Management	Switches the TV to standby mode if no signal is received for 30 seconds.

Connecting optional equipment

You can connect a wide range of optional equipment to your TV. Connecting cables are not supplied.

Connecting to the TV (side)



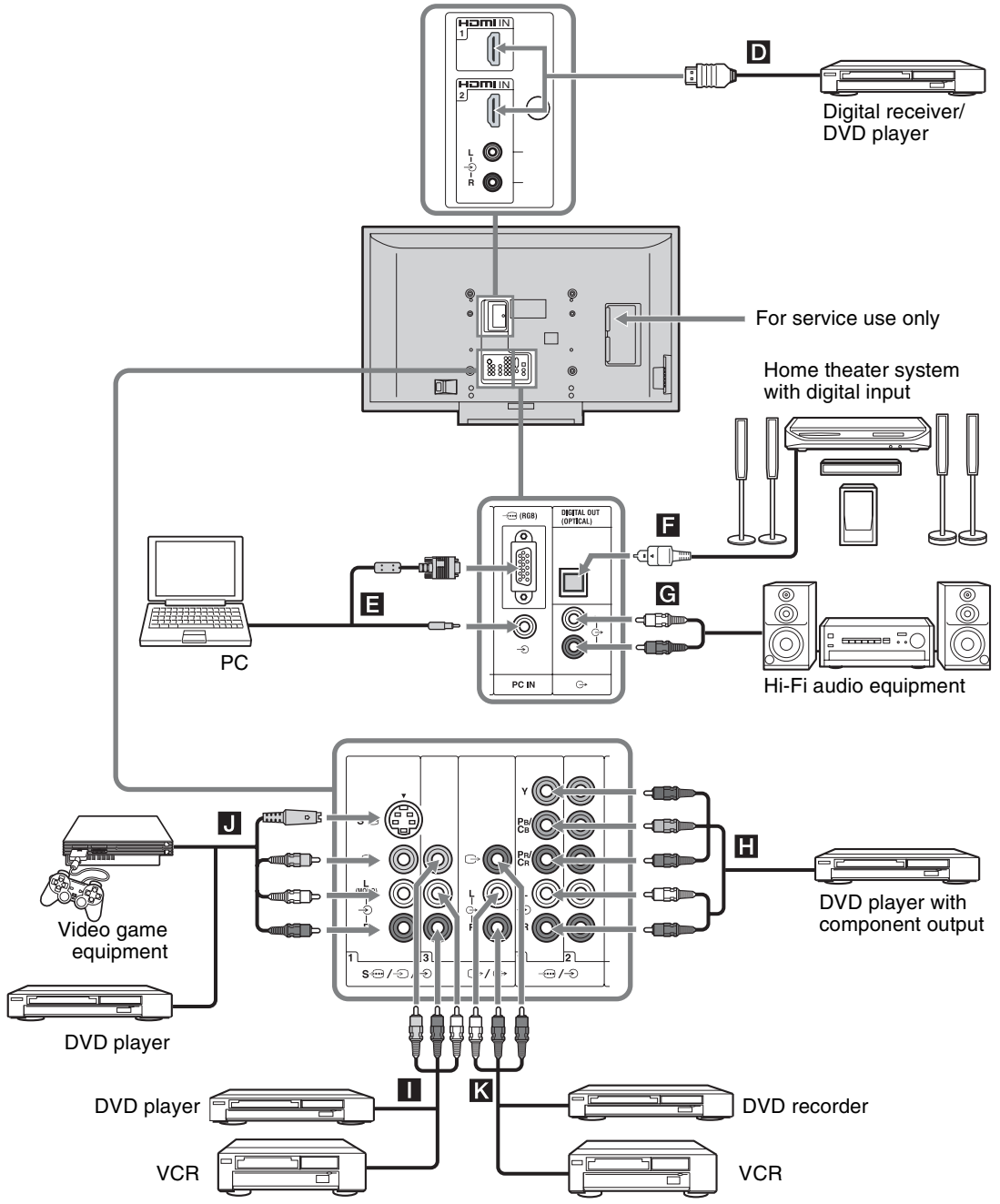
To connect	Do this
DVD player with component output **A**	Connect to the component video Y, PB/CB, PR/CR jacks 2 and audio L (MONO), R jacks 2.
S VHS/Hi8/DVC camcorder **B**	Connect to the S video jack S 2 or the composite video jack 2, and the audio jacks 2. To avoid picture noise, do not connect the camcorder to the video jack 2 and the S video jack S 2 at the same time. If you connect mono equipment, connect to the L jack 2.
Headphones **C**	Connect to the jack to listen to sound from the TV on headphones.

Tip

You can select the side socket input signals by setting "Video2 Input" in the "AV Setup" menu (page 30).

Continued

Connecting to the TV (rear)



To connect	Do this
Digital receiver or DVD player **D**	Connect to the HDMI IN 1 or 2 jack if the equipment has an HDMI jack. The digital video and audio signals are input from the equipment. If the equipment has a DVI jack, connect the DVI jack to the HDMI IN 2 jack through a DVI - HDMI adaptor interface (not supplied), and connect the equipment's audio out jacks to the audio in the HDMI IN 2 jacks. **Note** • The HDMI jacks only support the following video inputs: 480i, 480p, 576i, 576p, 720p, 1080i and 1080p. To connect a PC, use the PC IN jack. • Be sure to use only an HDMI cable that bears the HDMI logo.
PC **E**	Connect to the PC IN jacks. It is recommended to use a PC cable with ferrites.
Home theater system with digital input **F**	Connect to the DIGITAL OUT (OPTICAL) jack using the optical audio cable. **Note** The DIGITAL OUT (OPTICAL) jack only supports digital terrestrial signals.
Hi-Fi audio equipment **G**	Connect to the audio output jacks ◯← to listen to the sound from the TV on Hi-Fi audio equipment.
DVD player with component output **H**	Connect to the component jacks and the audio L (MONO)/R jacks →···/→1 or 2.
Video game equipment, DVD player or VCR **I J**	Connect to the S video jack S→···1 or the video jack →1 or 3, and the audio jacks →1 or 3. To avoid picture noise, do not connect the camcorder to the video jack →1 and the S video jack S→···1 at the same time. If you connect mono equipment, connect to the L (MONO) jack →1 or 3.

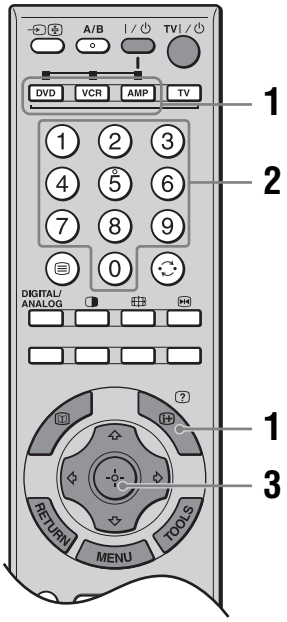
To connect	Do this
DVD recorder or VCR **K**	Connect to the video output jack →◯ to record the image from the TV. Connect to the audio output jacks ◯← to record the sound from the TV on the DVD recorder or VCR. **Note** The images of digital broadcasting recorded on this TV appear enlarged when they are played on a 4:3 screen size TV that cannot be adjusted to other aspect modes.

Programming the remote

If you have Sony VCRs/DVDs and Sony DVD Home Theater Systems/Amplifiers, do the following procedure to program the remote so that you can operate them using this remote.

Note

Before you start, look up the three-digit code for your equipment from the "Equipment's codes" on page 40.



1 Press and hold the DVD, VCR or AMP function button you want to program on the remote, then press ⊞, keeping the function button pressed down.

The selected function button (DVD, VCR or AMP) will flash.

2 Press the number buttons to enter the three-digit code while the button is lit. If code is not entered within 10 seconds, you must perform the step 1 again.

3 Press ⊕.

When the programming is correct, the selected function button will flash twice, and when not, it will flash five times.

4 Switch on your equipment and check that the following main functions work.

▷ (playback), ■ (stop), ◀◀ (rewind), ▶▶ (fast forward), channel selection for both VCR and DVDs, TOP MENU/MENU and ⇧/⇩/⇦/⇨ only for DVDs.

If your equipment is not working, or some of the functions do not work

Enter the correct code or try the next code listed.

To return to normal TV operation

Press the TV function button.

Equipment's codes

Equipment	Code
VCR	001*, 002, 003, 004
DVD	101*, 151, 201, 202, 203
Amplifier	301, 302, 303, 304, 401*, 402, 403, 451

* Factory setting

Specifications

Display Unit

Power Requirements:
220–240 V AC, 50/60 Hz
Screen Size:
KDL-52X2000: 52 inches
KDL-46X2000: 46 inches
KDL-40X2000: 40 inches
Display Resolution:
1,920 dots (horizontal) × 1,080 lines (vertical)
Power Consumption:
KDL-52X2000: 330 W
KDL-46X2000: 260 W
KDL-40X2000: 220 W
Standby Power Consumption:
0.5 W
Dimensions (w × h × d):
KDL-52X2000:
Approx. 1415 × 890 × 384 mm (with stand)
Approx. 1415 × 827 × 123 mm (without stand)
KDL-46X2000:
Approx. 1262 × 795 × 322 mm (with stand)
Approx. 1262 × 734 × 121 mm (without stand)
KDL-40X2000:
Approx. 1111 × 717 × 322 mm (with stand)
Approx. 1111 × 657 × 121 mm (without stand)
Weight:
KDL-52X2000:
Approx. 54.5 kg (with stand)
Approx. 47.0 kg (without stand)
KDL-46X2000:
Approx. 41.0 kg (with stand)
Approx. 36.0 kg (without stand)
KDL-40X2000:
Approx. 35.0 kg (with stand)
Approx. 30.0 kg (without stand)

Panel System

LCD (Liquid Crystal Display) Panel

TV System

Analog: I, D/K, B/G, M
Digital: DVB-T

Color/Video System

Analog: PAL, SECAM, NTSC 3.58, NTSC4.43 (only Video In)
Digital: MP@HL and MP@ML

Antenna

75 ohm external terminal

Channel Coverage

Analog: B/G
VHF: E2 to E12 / UHF: E21 to E69 /
CATV: S01 to S03, S1 to S41
VHF: 0 to 12, 5A, 9A / UHF: 28 to 69 /
CATV: S01 to S03, S1 to S44 (Australia only)
VHF: 1 to 11 / UHF: 21 to 69 /
CATV: S01 to S03, S1 to S41(New Zealand only)
I
UHF: B21 to B69 / CATV: S01 to S03, S1 to S41
D/K
VHF: C1 to C12, R1 to R12 /
UHF: C13 to C57, R21 to R60 /
CATV: S01 to S03, S1 to S41, Z1 to Z39
M
VHF: A2 to A13 / UHF: A14 to A79 /
CATV: A-8 to A-2, A to W+4, W+6 to W+84
Digital: VHF/UHF

Terminals

1, 2
Supported formats: 1080i, 720p, 576p, 576i, 480p, 480i
Y: 1 Vp-p, 75 ohms, 0.3V negative sync
P_B/C_B: 0.7 Vp-p, 75 ohms
P_R/C_R: 0.7 Vp-p, 75 ohms
S 1, 2
S video input (4-pin mini DIN)
1, 2, 3
Video input (phono jack)
1, 2, 3
Audio input (phono jacks)
500 mVrms
Impedance: 47 kilohms
HDMI IN 1, 2
Video: 1080p, 1080i, 720p, 576p, 576i, 480p, 480i
Audio: Two channel linear PCM
32, 44.1 and 48 kHz, 16, 20 and 24 bits
Analog audio (phono jacks): 500 mVrms, Impedance 47 kilohms (HDMI IN 2 only)
Video output (phono jack)
DIGITAL OUT (OPTICAL) (DIGITAL OUT (OPTICAL) jack)
Audio output (phono jacks)
(RGB) PC IN
PC Input (D-sub 15-pin) (see page 42)
G: 0.7 Vp-p, 75 ohms, non Sync on Green
B: 0.7 Vp-p, 75 ohms
R: 0.7 Vp-p, 75 ohms
HD: 1-5 Vp-p
VD: 1-5 Vp-p
PC IN
PC audio input (minijack)
Headphones jack

Continued

Sound Output

11 W + 11 W

Supplied Accessories

Refer to "1: Checking the accessories" on page 4.

Optional Accessories

- Wall-Mount Bracket SU-WL51/SU-WL53
- TV stand SU-FL61
- Color Variation Unit
  CRU-52X1 (for KDL-52X2000)
  CRU-46X1 (for KDL-46X2000)
  CRU-40X1 (for KDL-40X2000)

Design and specifications are subject to change without notice.

PC Input Signal Reference Chart

Signals	Horizontal (Pixel)	Vertical (Line)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Standard
VGA	**640**	**480**	**31.5**	**60**	**VGA**
	640	480	37.5	75	VESA
	720	400	31.5	70	VGA-T
SVGA	**800**	**600**	**37.9**	**60**	**VESA Guidelines**
	800	600	46.9	75	VESA
XGA	**1024**	**768**	**48.4**	**60**	**VESA Guidelines**
	1024	768	56.5	70	VESA
	1024	768	60	75	VESA
WXGA	**1280**	**768**	**47.4**	**60**	**VESA**
	1280	**768**	**47.8**	**60**	**VESA**
	1360	**768**	**47.7**	**60**	**VESA**

- This TV's PC input does not support Sync on Green or Composite Sync.
- This TV's PC input does not support interlaced signals.
- For the best picture quality, it is recommended to use the signals (boldfaced) in the above chart with a 60 Hz vertical frequency from a personal computer. In plug and play, signals with a 60 Hz vertical frequency will be selected automatically.

i-Plate Display Language Code

Code	Language	Code	Language	Code	Language	Code	Language
Af	Afrikaans	El	Greek	Ita	Italian	Spa	Spanish
Afr	Afrikaans	Ell	Greek	Jpn	Japanese	Tam	Tamil
Ar	Arabic	En	English	Kan	Kannada	Tel	Telugu
Ara	Arabic	Eng	English	Kor	Korean	Zho	Chinese
Aus	Australian	Fr	French	Mal	Malayalam	U1	Unknown 1
Ben	Bengali	Fra	French	Nl	Dutch	U2	Unknown 2
Bn	Bengali	Fre	French	Nld	Dutch		
Chi	Chinese	Gem	German	Pan	Panjabi		
De	German	Ger	German	Por	Portuguese		
Deu	German	Gre	Greek	Raj	Rajasthani		
Dut	Dutch	Hi	Hindi	Rus	Russian		
Egy	Egyptian	Hin	Hindi	San	Sanskrit		

Troubleshooting

Check whether the ⏻ (standby) indicator is flashing in red.

When it is flashing

The self-diagnosis function is activated.

1 Count how many ⏻ (standby) indicator flashes between each two second break.
For example, the indicator flashes three times, then there is a two second break, followed by another three flashes, etc.

2 Press ⏻ on the TV (right side) to switch it off, disconnect the AC power cord, and inform your dealer or Sony service center of how the indicator flashes (number of flashes).

When it is not flashing

1 Check the items in the tables below.

2 If the problem still persists, have your TV serviced by qualified service personnel.

Picture

Problem	Cause/Remedy
No picture (screen is dark) and no sound	• Check the antenna connection. • Connect the TV to AC power outlet, and press ⏻ on the TV (right side). • If the ⏻ (standby) indicator lights up in red, press TV I/⏻.
No picture or no menu information from equipment connected to the video input jack	• Check that the optional equipment is on and press →/⊡ repeatedly until the correct input symbol is displayed on the screen. • Check the connection between the optional equipment and the TV.
Double images or ghosting	• Check antenna/cable connections. • Check the antenna location and direction.
Only snow and noise appear on the screen	• Check if the antenna is broken or bent. • Check if the antenna has reached the end of its serviceable life (three to five years in normal use, one to two years at the seaside).
Distorted picture (dotted lines or stripes)	• Keep the TV away from electrical noise sources such as cars, motorcycles, hair-dryers or optical equipment. • When installing optional equipment, leave some space between the optional equipment and the TV. • Make sure that the antenna is connected using the supplied antenna cable. • Keep the antenna cable away from other connecting cables.
Picture noise when viewing a TV channel	• Select “Manual Program Preset” in the “Analog Setup” menu and adjust “AFT” (Automatic Fine Tuning) to obtain better picture reception (page 32).
Some tiny black points and/or bright points appear on the screen	• The picture of a display unit is composed of pixels. Tiny black points and/or bright points (pixels) on the screen do not indicate a malfunction.
No color on programs	• Select “Reset” in the “Picture” menu to return to the factory settings (page 21).
No color or irregular color when viewing a signal from the Y, PB/CB, PR/CR jacks →1 or 2	• Check the connection of the Y, PB/CB, PR/CR jacks →1 or 2. • Make sure that the Y, PB/CB, PR/CR jacks →1 or 2 are firmly seated in their respective jacks.

Continued

Sound

Problem	Cause/Remedy
No sound, but good picture	• Press +/– or (Mute). • Check that “Speaker” is set to “On” in the “Setup” menu (page 29).
Noisy sound	• See “Picture noise” causes/remedies on page 43.

Channels

Problem	Cause/Remedy
The desired channel cannot be selected	• Switch between digital and analog mode and select the desired digital/ analog channel.
Some channels are blank	• Scrambled/Subscription only channel. Subscribe to the Pay Per View service. • Channel is used only for data (no picture or sound). • Contact the broadcaster for transmission details.
Digital channels are not displayed	• Contact a local installer to find out if digital transmissions are provided in your area. • Upgrade to a higher gain antenna.
Some channels cannot be selected	• Once you select a channel within your Favorite List of channels, pressing PROG +/- will select only channels from your Favorite List. To select a channel that has not been programmed as a Favorite List channel, use the Program List feature or the number buttons.

General

Problem	Cause/Remedy
The TV turns off automatically (the TV enters standby mode)	• Check if the “Sleep Timer” is activated, or confirm the “Duration” setting of “On Timer” (page 28).
The TV turns on automatically	• Check if the “On Timer” is activated (page 28).
Some input sources cannot be selected	• Select “Video Labels” in the “AV Setup” menu and cancel “Skip” of the input source (page 30).
The remote does not function	• Check that the remote is set correctly for the equipment you are using. • Check whether the equipment you want to use corresponds to the function button being pressed (page 13). • If the remote does not operate the equipment even when the remote has been set correctly to the equipment, enter the necessary code as explained in “Programming the remote” (page 40). • Replace the batteries.
The recorded images appear enlarged when they are played on a 4:3 screen size TV	• The images of digital broadcasting recorded on this TV appear enlarged when they are played on a 4:3 screen size TV that cannot be adjusted to other aspect modes.
Forgotten Parental Control password	• Select “All Reset” in the “Setup” menu (page 29).

Index

Numerics

1 Digit Direct 31
4:3 Default 26

A

Advanced Settings 23
AFT 32
All Reset 29
Analog Setup menu 31
Antenna, connecting 5
Audio Filter 32
Audio Out 29
Audio Setup 33
Auto Adjustment 36
Auto Startup 28
Auto Tuning
  analog and digital channels 6
  analog channels only 31
  digital channels only 33
Auto Wide 26
AV Setup menu 30

B

Backlight 21, 35
Balance 24
Bass 24
Batteries, inserting into the remote 4
BBE 25
Black Corrector 23
Brightness 21, 35

C

Channels
  auto-tuing 6
  selecting 15
  Skip 32
Cinema Drive 29
Clear White 23
Clock Set 28
Color 21
Color Matrix 30
Color System 30, 32
Color Temperature 22, 35
Connecting
  an antenna/VCR 5
  optional equipment 37
Contrast Enhancer 23

D

Digital Setup menu 33
Digital Tuning 33
Display Area 26
Display Mode 35
DRC Mode 22
DRC Palette 22
Dual Sound 25

E

Equipment labels 30

F

Fastext 16
Favorite List 18
Favorite Preset 34
Full 16
Full Scan 33

G

Game Mode 30
Gamma 23

H

Headphones
  connecting 37
Horizontal Shift 26, 36
Hue 21

I

Input signal index table 19
Intelligent Volume 24
i-Plate 17

L

Label 32
Light Sensor 29
Live Color 23
Logo Illumination 29

M

Manual Program Preset 32
Manual Scan 33
MENU 20

N

Noise Reduction 22
Normal 16

O

On Timer 28

P

Parental Control 34
PC Settings menu 35
Phase 36
Picture Freeze 16
Picture 21, 35
Picture menu 21
Picture Mode 21
Picture Off (⊠) indicator 14
PIP 17
Pitch 36
Power (▮) indicator 14
Power (⏻) switch 14
Power Management 36
Power Saving 28
Previous channel (↻) button 12
Product Information 29
Program Block 31
Program Labels 31
Program Sorting 31

Q

Quick Scan 33

R

Remote control
  inserting batteries 4
  overview 12
  programming 40
  sensor 14
Reset
  PC settings 36
  picture 21, 35
  sound 24

S

Screen menu 26
Setup menu 28
Sharpness 22
Skip 30, 32
Sleep Timer 28
Sound menu 24
Sound Mode 24, 35
Speaker 29
Specifications 41
Standby (⏻) indicator 14
Surround 24

T

Target Inputs
  picture 21
  screen 26
  sound 24
Text 15
Time Setup 33
Timer (🕘) indicator 14
Timer Settings 28
Tools 16, 19
Treble 24
Twin Picture 17

V

VCR
  connecting 5
Vertical Shift 27, 36
Vertical Size 27
Video Labels 30
Video1 Auto S Video 30
Video2 Input 30
Volume Offset 24

W

Wide Mode 16, 26, 36
Wide Zoom 16

Z

Zoom 16

http://www.sony.net/

Printed on 100% recycled paper using VOC (Volatile Organic Compound)-free vegetable oil based ink.

Printed in Japan